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FY-66 Quarterly Report No. 2

PAR 202

PAR 224

30 Nov 65

SUBJECT: PAR 202, Briefing Print Enlarger
PAR 224, 3X - 15X Fluid Gate Enlarger

TASK/PROBLEM

1. PAR 202: To design and build a prototype enlarger for exposing high-quality briefing prints in formats up to and including 20 x 24 inches in size. Magnification to be in the 10 - 60 diameter range. The enlarger will be able to produce both black-and-white and color prints. Change from one capability to the other should be made with a minimum of effort.

2. PAR 224: Develop and fabricate an enlarger having continuously variable magnification from 3X to 15X for 70mm negative gate size. Print sizes to range up to 40 x 40 inches on cut sheet stock.

DISCUSSION

3. During this quarter the assembly of the breadboard model for these projects was completed. In the process of testing the model a number of design and fabrication problems were found and most were remedied. The illustrations show the breadboard model:

a. Figure 1 is a general view of the breadboard model of the BPE and its control console.

b. Figure 2 shows the 3X to 5X objective lens and focus assembly, the negative transport assembly, the focus table assembly and the photometer power unit.

NGA Review Complete

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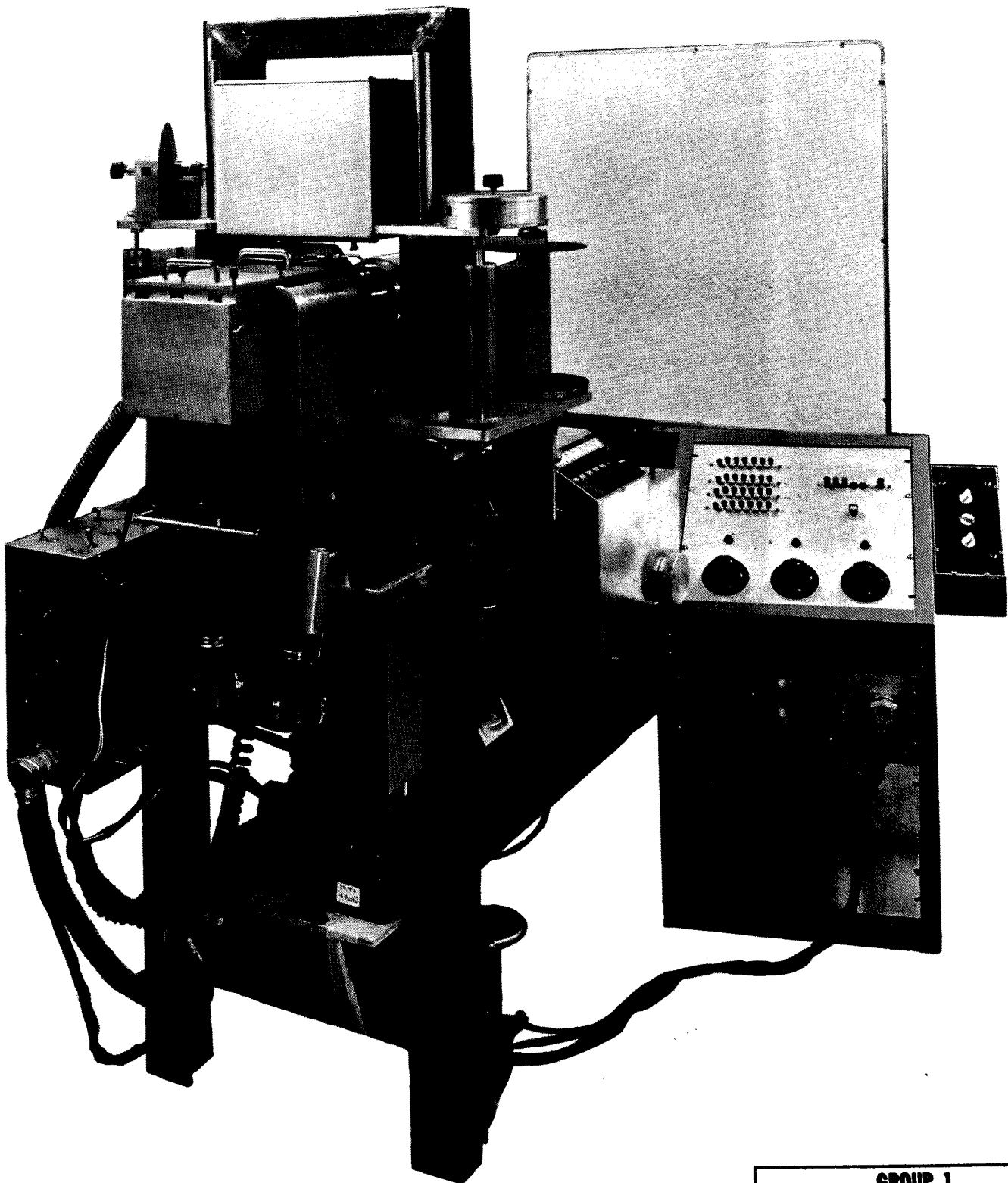
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SECRET

PAR 202

PAR 224

30 Nov 65



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Briefing Print Enlarger Breadboard
Figure 1

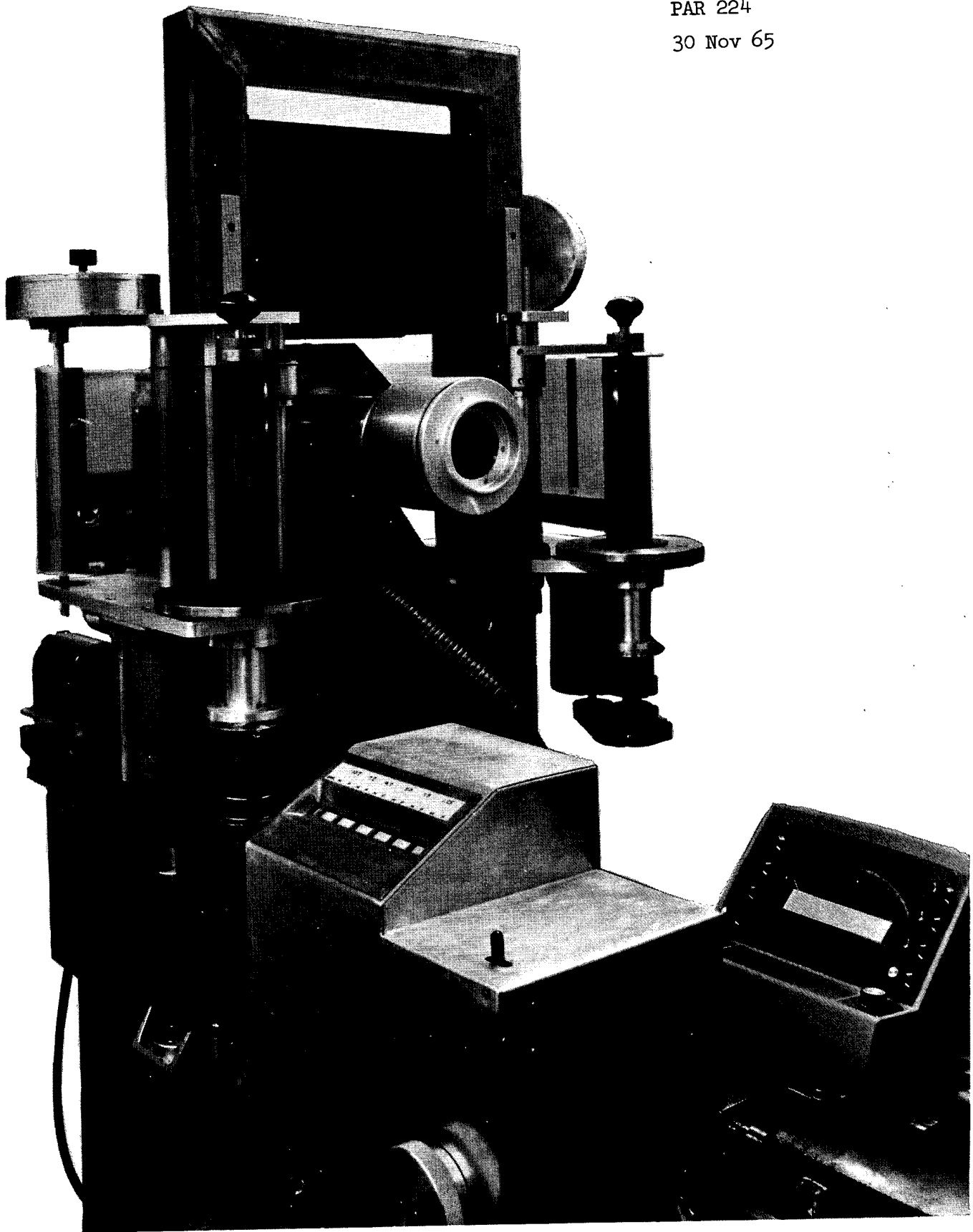
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PAR 202

PAR 224

30 Nov 65



Briefing Print Enlarger Breadboard
Figure 2

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SECRET

PAR 202

PAR 224

30 Nov 65

4. Focus calibration tests were made for blue light (black-and-white printing) and the focus/magnification table was generated on the contractor's IBM 1620 Model II Computer. A series of test prints of a high contrast resolution target was made for the full range of negative to platen distance for each of the six lenses. These prints showed image quality equal to that found for the optimum focus position in the focus calibration runs.

5. A set of black-and-white demonstration prints of high-quality aerial photographs (ON) were made for all the lenses over the full range of magnification of each. The image quality obtained over the full field of all the lenses appeared to be excellent. The grain structure of the Type 3404 film, used for the ON, provided the only edges sharp enough to indicate well the performance of the enlarging lenses. The images of grain structure were good over the full field of the lenses.

6. A demonstration of the breadboard model and the sample prints made with it was presented to customer representatives on 15 and 16 November. We have been requested to present briefings for two different groups at the customer's establishment on 8 December 65. We have been engaged in preparing illustrative material for this presentation.

7. PAR 243, Briefing Print Enlarger (prototype) has been submitted for customer review and consideration. This proposal consists of the design and fabrication of a deliverable prototype enlarger based upon the breadboard model design and the experience obtained in testing it.

PLANNED ACTIVITY

8. Present a briefing at the customer's plant on 8 December 1965 to describe the achievements of the breadboard model.

9. Prepare and publish a final report upon the design and tests of the breadboard model.

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